

WHAT IS CLAIMED IS:

1. An electro-mechanical braking control device comprising:

an electro-mechanical brake for electrically generating a braking force in response to a stroking force or stroking speed of a braking pedal, or a braking operation signal, and

a parking brake mechanism for maintaining the braking force when power is not supplied to said electro-mechanical brake or a control signal thereto is turned off,

wherein when the braking pedal is stroked or the braking operation signal is detected, said parking-brake mechanism is controlled so that the braking force may be maintained by said electro-mechanical brake.

2. An electro-mechanical braking control device according to Claim 1, wherein,

when the braking pedal is stepped on or the braking operation signal is detected, depending on a state of a power supply switch or an ignition key switch of a vehicle, it is determined whether the braking force of said electro-mechanical brake is maintained by said parking-brake mechanism or not.

3. An electro-mechanical braking control device according to Claim 2, wherein, when said power supply switch or said ignition key switch of the vehicle is turned off, the braking force of said electro-mechanical brake is maintained by said parking-brake

mechanism.

4. An electro-mechanical braking control device according to Claim 1, wherein,

when it is detected that a power supply switch or an ignition key switch of a vehicle is turned off, and the braking pedal is not stepped on or a braking operation is not performed in accordance with the braking operation signal, and,

when an engine speed is larger than a predetermined value and a transmission is connected,

said parking-brake mechanism is activated to cancel the braking force by said electro-mechanical brake.

5. An electro-mechanical braking control device according to Claim 1, wherein,

when it is detected that a power supply switch or an ignition key switch of a vehicle is turned on, and the braking pedal is not stepped on or a braking operation is not performed in accordance with the braking operation signal, and

when a driving torque of a motor for driving a vehicle is generated with a gear for the motor being connected,

said parking-brake mechanism is activated to cancel the braking force of said electro-mechanical brake.

6. An electro-mechanical braking device for electrically generating a braking force in response to

a control signal from a control device performing a control processing based on at least one of a stroking force and a stroking speed of a braking pedal, and a braking operation signal,

said electro-mechanical braking device comprising a parking-brake mechanism for maintaining the braking force when power is not supplied thereto or the control signal is not supplied thereto,

wherein said parking brake mechanism is controlled when the braking pedal is stepped on or the braking operation signal is detected,.

7. An electro-mechanical braking device according to Claim 6, wherein, when the braking pedal is stepped on or the braking operation signal is detected, and a power supply switch or an ignition key switch of a vehicle is turned off, said parking-brake mechanism is activated to maintain the braking force.

8. An electro-mechanical braking device according to Claim 6, wherein, when a power supply switch or an ignition key switch of a vehicle is turned on, and the braking pedal is not stepped on, it is detected from the braking operation signal that the braking pedal is not stepped on or the braking operation is not performed, and it is detected that the engine speed is larger than a predetermined value and a gear is connected, then said parking-brake mechanism is released.

9. An electro-mechanical braking device

according to Claim 6, wherein,

when a power supply switch or an ignition key switch of an electric powered vehicle or a hybrid electric vehicle is turned on, and the braking pedal is not stepped on, or it is detected from the braking operation signal that the braking pedal is not stepped on or the braking operation is not performed, and

when it is detected that a motor for driving the vehicle and a gear thereof are connected with each other, and a driving torque is generated, then said parking brake mechanism is released.

10. A control method for controlling an electro-mechanical braking device including an electro-mechanical brake for electrically generating a braking force in response to a stroking force or a stroking speed of a braking pedal, or a braking operation signal, and a parking brake mechanism for maintaining the braking force when power is not supplied to said electro-mechanical brake or a control signal is not applied thereto,

said control method comprising at least the step of controlling said parking brake mechanism to maintain the braking force of said electro-mechanical brake when the stroking force or stroking speed of the braking pedal or the braking operation signal is detected, or the braking pedal is stepped on or the braking operation signal is provided.

11. A control method according to Claim 10,

wherein the step of controlling said parking brake mechanism comprising a step of maintaining the braking force of said electro-mechanical brake when it is detected that a power supply switch or an ignition key switch of a vehicle is turned off.

12.           A control method according to Claim 10, wherein the step of controlling said parking brake mechanism comprising a step of activating said parking brake mechanism to cancel the braking force of said electro-mechanical brake, when a power supply switch or an ignition key switch of a vehicle is turned on, and the braking pedal is not stepped on or the braking operation is not performed in accordance with the braking operation signal, and a drive source and a driving axis are connected with each other.

13.           An control method according to Claim 12, further comprising the step of detecting that an engine speed reaches a predetermined value or exceeds the predetermined value, when it is detected that the drive source is connected with the driving axis.